

PTO/SB/17 (10-03)

Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)
75

Complete if Known

Application Number 10 / 774880
Filing Date 02-09-2004
First Named Inventor Timothy M. Kirby
Examiner Name
Art Unit
Attorney Docket No.

METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

Deposit Account Number
Deposit Account Name

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments
☐ Charge any additional fee(s) or any underpayment of fee(s)
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	10
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					10

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims -20** = X =
Independent Claims -3** = X =
Multiple Dependent =

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	86	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claim, if not paid	
1204	86	2204	43	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					0

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	65
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)
65

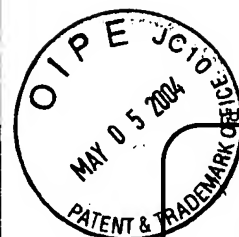
05/06/2004 SSESHE1 00000013 10774880
01 F0:2001
02 F0:2051

SUBMITTED BY		(Complete if applicable)	
Name (Print/Type)	Timothy M. Kirby	Registration No. (Attorney/Agent)	Telephone (985) 787-2020
Signature		Date	05-03-2004

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

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PTO/SB/08A (08-03)

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/774880
Filing Date	02-09-2004
First Named Inventor	Timothy M. Kirby
Art Unit	
Examiner Name	
Attorney Docket Number	

Sheet 1 of 3**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 4,372,126	02-08-1983	SEBALD, J. F.	P11, C9, L44-47
		US- 4,417,446	11-29-1983	NAKAMOTO, Y.	P5, C4, L21-69
		US- " "	" "	" "	P6, C6, L58-61
		US- 4,907,410	03-13-1990	CHANG, Y. P.	P11, C1L9-C2L41
		US- 5,087,175	02-11-1992	RAIZMAN, I. A.	P2, Fig. 1
		US- 5,640,842	06-24-1997	BRONICKI, L. Y.	P4, C1, L12-43
		US- 6,305,170 B1	10-23-2001	KITANI, H.	P2, Fig. 1
		US- 6,397,596 B1	06-04-2002	BOYLE, H.	P18, C9, L5-18
		US- 6,434,941 B1	08-20-2002	NARUTOMI, H.	P22, C2, L64-67
		US- 6,584,794 B2	07-01-2003	TAKEUCHI, H.	P2, Figs. 1 & 2
		US- 6,606,860 B2	08-19-2003	MCFARLAND, R. S.	P11, C1L23-C2L29
		US- 6,674,054 B2	01-06-2004	BOYERS, D. G.	Fig. 7
		US- " "	" "	" "	C47, L60 - C48, L10
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number	10/774880		
		Filing Date	02-09-2004		
		First Named Inventor	Timothy M. Kirby		
		Art Unit			
		Examiner Name			
Sheet	2	of	3	Attorney Docket Number	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		THE BABCOCK & WILCOX COMPANY, Steam: Its Generation and Use, 1978, ENTIRE VOLUME, The Babcock & Wilcox Company.	
		BHATTACHARJEE, SUBRATA, Test: The Expert System for Thermodynamics (web edition), 2003, http://eng.sdsu.edu/testcenter/testhome/index.html	
		DAUGHERTY, ROBERT L., Fluid Mechanics with Engineering Applications, 1977, ENTIRE VOLUME, McGraw-Hill, Inc.	
		DE LAVAL TURBINE, INC., De Laval Engineering Handbook, 1970, Sections 4 through 8 (pgs. 4-1 to 8-19), McGraw-Hill, Inc.	
		KARASSIK, IGOR J., Pump Handbook, 1986, Chapters 1, 2, 4, & 6, McGraw-Hill Book Company	
		KREIDER, JAN F., Solar Energy Handbook, 1981, Chapters 4, 19, & 22, McGraw-Hill Book Company	
		LINDEBURG, MICHAEL R., 1001 Problems Solved Engineering Fundamentals, 1988, Pg. 4-31, Professional Publications, Inc.	
		PRESSMAN, DAVID, Patent It Yourself (Sixth Edition), 1997, ENTIRE VOLUME, Nolo Press	
		SHIELDS, CARL D., Boilers: Types, Characteristics, and Functions, 1961 (1982 reissue), ENTIRE VOLUME, McGraw-Hill, Inc.	
		STOECKER, WILBERT F., Industrial Refrigeration Handbook, 1998, ENTIRE VOLUME, McGraw-Hill Professional	

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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STATEMENT BY APPLICANT**

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Application Number	10/774880
Filing Date	02-09-2004
First Named Inventor	Timothy M. Kirby
Art Unit	
Examiner Name	
Attorney Docket Number	

Sheet

3

of

3

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		THURMAN, ALBERT, Fundamentals of Energy Engineering, 1984, ENTIRE VOLUME, The Fairmont Press, Inc. (Prentice-Hall, Inc.)	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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